Phragmites: A Threat to Cattails

Organization:

Title: Phragmites: A Threat to Cattails
Summary: Students learn about the impact of phragmites on cattails and wetland health.
Inquiry Question: Inquiry Question 3. What are some threats to the plant species used to construct these tools and technologies?
Duration: 30-40 minutes
Learning Environment: Classroom
Season: All
Materials:

- Phragmites Information.ppt
- Aluminum baking pan
- Clay
- Sponge
- Watering can
- Sand

Curriculum Links:
Grade 7 Science and Technology: A1.1, A1.2, A3.3, B2.1, B2.2, B2.5, B2.7
Grade 9 Science: A1.1, A1.2, A2.4, A2.5, B2.1, B2.2, B2.4
Grade 9 Academic Geography: B1.4

Meta Data:

Content Type: Activity
Bundle: Tools
Theme: Invasive Species
Subject Area: Biology, Environmental Education, Geography, Outdoor Education, Science, Social Studies
Curriculum Focus: 7, 9

- Teacher explains that invasive species also have a significant impact on cattails.
- Phragmites, introduced from Europe, follow in the wake of human disturbance, and not only push out native cattails but also threaten to take over entire wetland ecosystems.
- Students learn about phragmites by reading PowerPoint **Phragmites Information.ppt.**
- Teacher leads the following activity as a demonstration to show the impact of phragmites on a wetland. The teacher will need an aluminum baking pan, clay, sponge, watering can, and sand, which they use to create a model of a wetland, using the clay to make native plants and animals. The sponge represents the roots of the native plants (cattails) that allow the wetland to absorb and store water.

- Teacher asks a student to pour water in the pan and observe what happens (the sponge should absorb some but not all the water).
- Next, the teacher replaces the sponge (roots of cattails) with packed sand. Teacher then asks a second students volunteer to pour the same amount of water on the sand and observe any differences from the first model. The water should mostly get absorbed by the sand, leaving little water for plants and animals.
- Phragmites thrives in wetlands but can dry them out because of all the water the plant requires.

Discussion:
Students discuss the differences they observed in the two conditions and how the introduction of phragmites could affect the native plants and animals in a wetland. Ask students to also consider the potential impact of phragmites on the Indigenous land-based practices that rely on native cattails.